



10/24

55 117
LYLNIALHLSDFFLKHPGKDVRLLVACCLADIFRIYAPEAPYTSPDKLKDIFMFI TRQLKGL
196 217 241 277
LDTVLVNLVPAHKNLNKQAYDL LMLGKTSISDLSEHVFDLILELYNIDSHLLLSVLPQL
319 355 375 404
LGRFNDIHVPIRLECVKFASHCLMNHDPDLAKDLTEYL VTAAKKDILLVNDHLLNFVRERTLDKRWRV

FIG. 2

cggagaggag	gaggaacggc	agggctggct	gcggaagggg	aggggggggg	agaaggcgat	60
tggtatgcggc	ggcggcggcg	gatccccggag	agccccggag	tgagcggagt	agcgagtcgg	120
caacccggag	gggtagaaat	atctctgtc	atg gct cat tca aag act agg acc			173
			Met Ala His Ser Lys Thr Arg Thr			
			1	5		
aat gat gga aaa att aca tat ccg cct ggg gtc aag gaa ata tca gat						221
Asn Asp Gly Lys Ile Thr Tyr Pro Pro Gly Val Lys Glu Ile Ser Asp						
10		15		20		
aaa ata tct aaa gag gag atg gtg aga cga tta aag atg gtt gtg aaa						269
Lys Ile Ser Lys Glu Glu Met Val Arg Arg Leu Lys Met Val Val Lys						
25		30		35		40
act ttt atg gat atg gac cag gac tct gaa gaa gaa aag gag ctt tat						317
Thr Phe Met Asp Met Asp Gln Asp Ser Glu Glu Glu Lys Glu Leu Tyr						
	45		50		55	
tta aac cta gct tta cat ctt gct tca gat ttt ttt ctc aag cat cct						365
Leu Asn Leu Ala Leu His Leu Ala Ser Asp Phe Phe Leu Lys His Pro						
	60		65		70	
ggt aaa gat gtt cgc tta ctg gta gcc tgc tgc ctt gct gat att ttc						413
Gly Lys Asp Val Arg Leu Leu Val Ala Cys Cys Leu Ala Asp Ile Phe						
	75		80		85	
agg att tat gct cct gaa gct cct tac aca tcc cct gat aaa cta aag						461
Arg Ile Tyr Ala Pro Glu Ala Pro Tyr Thr Ser Pro Asp Lys Leu Lys						
	90		95		100	
gat ata ttt atg ttt ata aca aga cag ttg aag ggg cta gag gat aca						509
Asp Ile Phe Met Phe Ile Thr Arg Gln Leu Lys Gly Leu Glu Asp Thr						
105		110		115		120
aag agc cca caa ttc aat agg tat ttt tat tta ctt gag aac att gct						557
Lys Ser Pro Gln Phe Asn Arg Tyr Phe Tyr Leu Leu Glu Asn Ile Ala						
	125		130		135	
tggt gtc aag tca tat aac ata tgc ttt gag tta gaa gat agc aat gaa						605
Trp Val Lys Ser Tyr Asn Ile Cys Phe Glu Leu Glu Asp Ser Asn Glu						
	140		145		150	

FIG. 6-1

17/24

att ttc acc cag cta tac aga acc tta ttt tca gtt ata aac aat ggc Ile Phe Thr Gln Leu Tyr Arg Thr Leu Phe Ser Val Ile Asn Asn Gly 155 160 165	653
cac aat cag aaa gtc cat atg cac atg gta gac ctt atg agc tct att His Asn Gln Lys Val His Met His Met Val Asp Leu Met Ser Ser Ile 170 175 180	701
att tgt gaa ggt gat aca gtg tct cag gag ctt ttg gat acg gtt tta Ile Cys Glu Gly Asp Thr Val Ser Gln Glu Leu Leu Asp Thr Val Leu 185 190 195 200	749
gta aat ctg gta cct gct cat aag aat tta aac aag caa gca tat gat Val Asn Leu Val Pro Ala His Lys Asn Leu Asn Lys Gln Ala Tyr Asp 205 210 215	797
ttg gca aag gct tta ctg aag agg aca gct caa gct att gag cca tat Leu Ala Lys Ala Leu Leu Lys Arg Thr Ala Gln Ala Ile Glu Pro Tyr 220 225 230	845
att acc act ttt ttt aat cag gtt ctg atg ctt ggg aaa aca tct atc Ile Thr Thr Phe Phe Asn Gln Val Leu Met Leu Gly Lys Thr Ser Ile 235 240 245	893
agc gat ttg tca gag cat gtc ttt gac tta att ttg gag ctc tac aat Ser Asp Leu Ser Glu His Val Phe Asp Leu Ile Leu Glu Leu Tyr Asn 250 255 260	941
att gat agt cat ttg ctg ctc tct gtt tta ccc cag ctt gaa ttt aaa Ile Asp Ser His Leu Leu Leu Ser Val Leu Pro Gln Leu Glu Phe Lys 265 270 275 280	989
tta aag agc aat gat aat gag gag cgc cta caa gtt gtt aaa cta ctg Leu Lys Ser Asn Asp Asn Glu Glu Arg Leu Gln Val Val Lys Leu Leu 285 290 295	1037
gca aaa atg ttt ggg gca aag gat tca gaa ttg gct tct caa aac aag Ala Lys Met Phe Gly Ala Lys Asp Ser Glu Leu Ala Ser Gln Asn Lys 300 305 310	1085
cca ctt tgg cag tgc tac ttg ggc agg ttt aat gat atc cat gta cca Pro Leu Trp Gln Cys Tyr Leu Gly Arg Phe Asn Asp Ile His Val Pro 315 320 325	1133

FIG. 6-2

atc cgc ctg gaa tgt gtg aaa ttt gct agc cat tgt ctc atg aac cat	1181
Ile Arg Leu Glu Cys Val Lys Phe Ala Ser His Cys Leu Met Asn His	
330 335 340	
cct gat tta gca aaa gac tta aca gag tat ctt aaa gtg agg tca cat	1229
Pro Asp Leu Ala Lys Asp Leu Thr Glu Tyr Leu Lys Val Arg Ser His	
345 350 355 360	
gac cct gag gaa gct att aga cat gat gtt att gtg tca ata gtt aca	1277
Asp Pro Glu Glu Ala Ile Arg His Asp Val Ile Val Ser Ile Val Thr	
365 370 375	
gct gct aaa aag gat att ctt ctg gtc aat gat cac tta ctt aat ttt	1325
Ala Ala Lys Lys Asp Ile Leu Leu Val Asn Asp His Leu Leu Asn Phe	
380 385 390	
gtg aga gag aga aca tta gac aaa cga tgg aga gta cgc aaa gaa gcc	1373
Val Arg Glu Arg Thr Leu Asp Lys Arg Trp Arg Val Arg Lys Glu Ala	
395 400 405	
atg atg gga ctt gcc caa att tat aag aaa tat gct tta cag tca gca	1421
Met Met Gly Leu Ala Gln Ile Tyr Lys Lys Tyr Ala Leu Gln Ser Ala	
410 415 420	
gct gga aaa gat gct gca aaa cag ata gca tgg atc aaa gac aaa ttg	1469
Ala Gly Lys Asp Ala Ala Lys Gln Ile Ala Trp Ile Lys Asp Lys Leu	
425 430 435 440	
cta cat ata tat tat caa aat agt att gat gat cga cta ctt gtt gaa	1517
Leu His Ile Tyr Tyr Gln Asn Ser Ile Asp Asp Arg Leu Leu Val Glu	
445 450 455	
cgg atc ttt gct caa tac atg gtt cct cac aat tta gaa act aca gaa	1565
Arg Ile Phe Ala Gln Tyr Met Val Pro His Asn Leu Glu Thr Thr Glu	
460 465 470	
cgg atg aaa tgc tta tat tac ttg tat gcc aca ctg gat tta aat gct	1613
Arg Met Lys Cys Leu Tyr Tyr Leu Tyr Ala Thr Leu Asp Leu Asn Ala	
475 480 485	
gtg aaa gca ttg aat gaa atg tgg aaa tgt caa aat ctg ctc cga cat	1661
Val Lys Ala Leu Asn Glu Met Trp Lys Cys Gln Asn Leu Leu Arg His	
490 495 500	

FIG. 6-3

19/24

caa gta aag gat ttg ctt gac ttg att aag caa ccc aaa aca gat gcc	1709
Gln Val Lys Asp Leu Leu Asp Leu Ile Lys Gln Pro Lys Thr Asp Ala	
505 510 515 520	
agt gtc aag gcc ata ttt tca aaa gtg atg gtt att aca aga aat tta	1757
Ser Val Lys Ala Ile Phe Ser Lys Val Met Val Ile Thr Arg Asn Leu	
525 530 535	
cct gat cct ggt aag gct cag gat ttc atg aag aaa ttc aca cag gtg	1805
Pro Asp Pro Gly Lys Ala Gln Asp Phe Met Lys Lys Phe Thr Gln Val	
540 545 550	
tta gaa gat gat gag aaa ata aga aag cag tta gaa gta ctt gtt agt	1853
Leu Glu Asp Asp Glu Lys Ile Arg Lys Gln Leu Glu Val Leu Val Ser	
555 560 565	
cca aca tgc tcc tgc aag cag gct gaa ggt tgt gtg cgt gaa ata act	1901
Pro Thr Cys Ser Cys Lys Gln Ala Glu Gly Cys Val Arg Glu Ile Thr	
570 575 580	
aag aag ttg ggc aac ccc aaa cag cct aca aat cct ttc ctg gaa atg	1949
Lys Lys Leu Gly Asn Pro Lys Gln Pro Thr Asn Pro Phe Leu Glu Met	
585 590 595 600	
atc aag ttt ctc ttg gag agg ata gca cct gtg cac ata gat acc gaa	1997
Ile Lys Phe Leu Leu Glu Arg Ile Ala Pro Val His Ile Asp Thr Glu	
605 610 615	
tct atc agt gct ctt att aaa caa gtg aac aaa tca ata gat gga aca	2045
Ser Ile Ser Ala Leu Ile Lys Gln Val Asn Lys Ser Ile Asp Gly Thr	
620 625 630	
gca gat gat gaa gat gag ggt gtt cca act gat caa gcc atc aga gca	2093
Ala Asp Asp Glu Asp Glu Gly Val Pro Thr Asp Gln Ala Ile Arg Ala	
635 640 645	
ggt ctt gaa ctg ctt aag gta ctc tca ttt aca cat ccc atc tca ttt	2141
Gly Leu Glu Leu Leu Lys Val Leu Ser Phe Thr His Pro Ile Ser Phe	
650 655 660	
cat tct gct gaa aca ttt gaa tca tta ctg gct tgt ctg aaa atg gat	2189
His Ser Ala Glu Thr Phe Glu Ser Leu Leu Ala Cys Leu Lys Met Asp	
665 670 675 680	

FIG. 6-4

20/24

gat gaa aaa gta gca gaa gct gca cta caa att ttc aaa aac aca gga	2237
Asp Glu Lys Val Ala Glu Ala Ala Leu Gln Ile Phe Lys Asn Thr Gly	
685 690 695	
agc aaa att gaa gag gat ttt cca cac atc aga tca gcc ttg ctt cct	2285
Ser Lys Ile Glu Glu Asp Phe Pro His Ile Arg Ser Ala Leu Leu Pro	
700 705 710	
gtt tta cat cac aaa tct aaa aaa gga ccc ccc cgt caa gcc aaa tat	2333
Val Leu His His Lys Ser Lys Lys Gly Pro Pro Arg Gln Ala Lys Tyr	
715 720 725	
gcc att cat tgt atc cat gcg ata ttt tct agt aaa gag acc cag ttt	2381
Ala Ile His Cys Ile His Ala Ile Phe Ser Ser Lys Glu Thr Gln Phe	
730 735 740	
gca cag ata ttt gag cct ctg cat aag agc cta gat cca agc aac ctg	2429
Ala Gln Ile Phe Glu Pro Leu His Lys Ser Leu Asp Pro Ser Asn Leu	
745 750 755 760	
gaa cat ctc ata aca cca ttg gtt act att ggt cat att gct ctc ctt	2477
Glu His Leu Ile Thr Pro Leu Val Thr Ile Gly His Ile Ala Leu Leu	
765 770 775	
gca cct gat caa ttt gct gct cct tgg aaa tct tgg gta gct act ttc	2525
Ala Pro Asp Gln Phe Ala Ala Pro Trp Lys Ser Trp Val Ala Thr Phe	
780 785 790	
att gtg aaa gat ctt ctc atg aat gat cgg ctt cca ggg aaa aag aca	2573
Ile Val Lys Asp Leu Leu Met Asn Asp Arg Leu Pro Gly Lys Lys Thr	
795 800 805	
act aaa ctt tgg gtt cca gat gaa gaa gta tct cct gag aca atg gtc	2621
Thr Lys Leu Trp Val Pro Asp Glu Glu Val Ser Pro Glu Thr Met Val	
810 815 820	
aaa att cag gct att aaa atg atg gtt cga tgg cta ctt gga atg aaa	2669
Lys Ile Gln Ala Ile Lys Met Met Val Arg Trp Leu Leu Gly Met Lys	
825 830 835 840	
aat aat cac agt aaa tca gga act tct acc tta aga ttg cta aca aca	2717
Asn Asn His Ser Lys Ser Gly Thr Ser Thr Leu Arg Leu Leu Thr Thr	
845 850 855	

FIG. 6-5

21/24

ata ttg cat agt gat gga gac ttg aca gaa cag ggg aaa att agt aaa	2765
Ile Leu His Ser Asp Gly Asp Leu Thr Glu Gln Gly Lys Ile Ser Lys	
860 865 870	
cca gat atg tca cgt ctg aga ctt gct gct ggg agt gct att gtg aag	2813
Pro Asp Met Ser Arg Leu Arg Leu Ala Ala Gly Ser Ala Ile Val Lys	
875 880 885	
ctg gca caa gaa ccc tgt tac cat gaa atc atc aca tta gaa caa tat	2861
Leu Ala Gln Glu Pro Cys Tyr His Glu Ile Ile Thr Leu Glu Gln Tyr	
890 895 900	
cag cta tgt gca tta gct atc aac gat gaa tgc tat caa gta aga caa	2909
Gln Leu Cys Ala Leu Ala Ile Asn Asp Glu Cys Tyr Gln Val Arg Gln	
905 910 915 920	
gtg ttt gcc cag aaa ctt cac aaa ggc ctt tcc cgt tta cgg ctt cca	2957
Val Phe Ala Gln Lys Leu His Lys Gly Leu Ser Arg Leu Arg Leu Pro	
925 930 935	
ctt gag tat atg gca atc tgt gcc ctt tgt gca aaa gat cct gta aag	3005
Leu Glu Tyr Met Ala Ile Cys Ala Leu Cys Ala Lys Asp Pro Val Lys	
940 945 950	
gag aga aga gct cat gct agg caa tgt ttg gtg aaa aat ata aat gta	3053
Glu Arg Arg Ala His Ala Arg Gln Cys Leu Val Lys Asn Ile Asn Val	
955 960 965	
agg cgg gag tat ctg aag cag cat gca gct gtt agt gaa aaa tta ttg	3101
Arg Arg Glu Tyr Leu Lys Gln His Ala Ala Val Ser Glu Lys Leu Leu	
970 975 980	
tct ctt cta cca gag tat gtt gtt cca tat aca att cac ctt ttg gca	3149
Ser Leu Leu Pro Glu Tyr Val Val Pro Tyr Thr Ile His Leu Leu Ala	
985 990 995 1000	
cat gac cca gat tat gtc aaa gta cag gat att gaa caa ctt aaa gat	3197
His Asp Pro Asp Tyr Val Lys Val Gln Asp Ile Glu Gln Leu Lys Asp	
1005 1010 1015	
gtt aaa gaa tgt ctt tgg ttt gtt ctg gaa ata tta atg gct aaa aat	3245
Val Lys Glu Cys Leu Trp Phe Val Leu Glu Ile Leu Met Ala Lys Asn	
1020 1025 1030	

FIG. 6-6

22/24

gaa aat aac agt cac gct ttt atc aga aag atg gta gaa aat att aaa	3293
Glu Asn Asn Ser His Ala Phe Ile Arg Lys Met Val Glu Asn Ile Lys	
1035 1040 1045	
caa aca aaa gat gcc caa gga cca gat gat gca aaa atg aat gaa aaa	3341
Gln Thr Lys Asp Ala Gln Gly Pro Asp Asp Ala Lys Met Asn Glu Lys	
1050 1055 1060	
ctg tac act gtg tgt gat gtt gcc atg aat atc atc atg tca aag agt	3389
Leu Tyr Thr Val Cys Asp Val Ala Met Asn Ile Ile Met Ser Lys Ser	
1065 1070 1075 1080	
act aca tac agt ttg gaa tct cct aaa gac ccg gta cta cca gct cgt	3437
Thr Thr Tyr Ser Leu Glu Ser Pro Lys Asp Pro Val Leu Pro Ala Arg	
1085 1090 1095	
ttc ttc act caa cct gac aag aat ttc agt aac acc aaa aat tat ctg	3485
Phe Phe Thr Gln Pro Asp Lys Asn Phe Ser Asn Thr Lys Asn Tyr Leu	
1100 1105 1110	
cct cct gaa atg aaa tca ttt ttc act cct gga aaa cct aaa aca acc	3533
Pro Pro Glu Met Lys Ser Phe Phe Thr Pro Gly Lys Pro Lys Thr Thr	
1115 1120 1125	
aat gtt cta gga gct gtt aac aag cca ctt tca tca gca ggc aag caa	3581
Asn Val Leu Gly Ala Val Asn Lys Pro Leu Ser Ser Ala Gly Lys Gln	
1130 1135 1140	
tct cag acc aaa tca tca cga atg gaa act gta agc aat gca agc agc	3629
Ser Gln Thr Lys Ser Ser Arg Met Glu Thr Val Ser Asn Ala Ser Ser	
1145 1150 1155 1160	
agc tca aat cca agc tct cct gga aga ata aag ggg agg ctt gat agt	3677
Ser Ser Asn Pro Ser Ser Pro Gly Arg Ile Lys Gly Arg Leu Asp Ser	
1165 1170 1175	
tct gaa atg gat cac agt gaa aat gaa gat tac aca atg tct tca cct	3725
Ser Glu Met Asp His Ser Glu Asn Glu Asp Tyr Thr Met Ser Ser Pro	
1180 1185 1190	
ttg ccg ggg aaa aaa agt gac aag aga gac gac tct gat ctt gta agg	3773
Leu Pro Gly Lys Lys Ser Asp Lys Arg Asp Asp Ser Asp Leu Val Arg	
1195 1200 1205	

FIG. 6-7

23/24

<p>tct gaa ttg gag aag cct aga ggc agg aaa aaa acg ccc gtc aca gaa Ser Glu Leu Glu Lys Pro Arg Gly Arg Lys Lys Thr Pro Val Thr Glu 1210 1215 1220</p>	3821
<p>cag gag gag aaa tta ggt atg gat gac ttg act aag ttg gta cag gaa Gln Glu Glu Lys Leu Gly Met Asp Asp Leu Thr Lys Leu Val Gln Glu 1225 1230 1235 1240</p>	3869
<p>cag aaa cct aaa ggc agt cag cga agt cgg aaa aga ggc cat acg gct Gln Lys Pro Lys Gly Ser Gln Arg Ser Arg Lys Arg Gly His Thr Ala 1245 1250 1255</p>	3917
<p>tca gaa tct gat gaa cag cag tgg cct gag gaa aag agg ctc aaa gaa Ser Glu Ser Asp Glu Gln Gln Trp Pro Glu Glu Lys Arg Leu Lys Glu 1260 1265 1270</p>	3965
<p>gat ata tta gaa aat gaa gat gaa cag aat agt ccg cca aaa aag ggt Asp Ile Leu Glu Asn Glu Asp Glu Gln Asn Ser Pro Pro Lys Lys Gly 1275 1280 1285</p>	4013
<p>aaa aga ggc cga cca cca aaa cct ctt ggt gga ggt aca cca aaa gaa Lys Arg Gly Arg Pro Pro Lys Pro Leu Gly Gly Gly Thr Pro Lys Glu 1290 1295 1300</p>	4061
<p>gag cca aca atg aaa act tct aaa aaa gga agc aaa aaa aaa tct gga Glu Pro Thr Met Lys Thr Ser Lys Lys Gly Ser Lys Lys Lys Ser Gly 1305 1310 1315 1320</p>	4109
<p>cct cca gca cca gag gag gag gaa gaa gaa gaa aga caa agt gga aat Pro Pro Ala Pro Glu Glu Glu Glu Glu Glu Glu Arg Gln Ser Gly Asn 1325 1330 1335</p>	4157
<p>acg gaa cag aag tcc aaa agc aaa cag cac cga gtg tca agg aga gca Thr Glu Gln Lys Ser Lys Ser Lys Gln His Arg Val Ser Arg Arg Ala 1340 1345 1350</p>	4205
<p>cag cag aga gca gaa tct cct gaa tct agt gca att gaa tcc aca cag Gln Gln Arg Ala Glu Ser Pro Glu Ser Ser Ala Ile Glu Ser Thr Gln 1355 1360 1365</p>	4253
<p>tcc aca cca cag aaa gga cga gga aga cca tca aaa acg cca tca cca Ser Thr Pro Gln Lys Gly Arg Gly Arg Pro Ser Lys Thr Pro Ser Pro 1370 1375 1380</p>	4301

FIG. 6-8

24/24

tca caa cca aaa aaa aat gtg taagttgtaa atattacatt tcaaaccaat 4352
Ser Gln Pro Lys Lys Asn Val End
1385 1390

ttcaaattat ttgcaaaaag ttcctaaatt tgtaaacata catattgctg tatttaaatt 4412
ccatatattt agccccatta cactaggtac ggcggcgaag tgctaaaagg gaacggcgat 4472
gaacaaatgt aattaataac tttctctgtg aaagctttgg aaaaatcttt tttttttttt 4532
tttttttttg gtcaagcttg aggctgaata aagcctttga tgcacaaaat gggactgctg 4592
aagagtggac agttggacct tactttggtg accccataca tttgtggtca catgctttag 4652
ccatacacat ggtaacattg actatggagt cttgtgaaag tgtaatgtgc gatggctatg 4712
tagacataaa gaagaaactt gtaaatatct tttttctttt tttaaatgtt tctgatttct 4772
gaagtgcttg tatagctttt atctgcggct ttaaactgac agtaccgcac tgtttatttg 4832
atctattgat ttgaaaagaa tttgttagga tagatcttaa gcagtaatct gtcagtgttt 4892
gtatttgtat tttctgcaat tttactgtga aaaaaaattt gttttcaaca attggtgtca 4952
ttttcttgat gtcactattt gttggagagt taaatggctc cttccctttg tgtatcttac 5012
ctagtgttta ctctgggca cccttaatct tcagaggtgc taaattgtct gccattacac 5072
cagaaggatg cctctgatag gaggacaacc atgcaaattg tgaaatagtc ctgaagttct 5132
tggattactt tacacctcag tattgatttg tcccagaatt ttctggcctt tcatggcaat 5192
gaaaatttta agaagaaaga tttaaagtat tttaatttta aagagtgtgt tataaaataa 5252
tgtactgaat tctttatccc attttatcat cctttcagtt tttattaatc tactgtatca 5312
ataaaattct gtaatttgaa tgagtaaaaa aaaaaaaaaa aaa 5355

FIG. 6-9